

## Abstract of the Disclosure

A novel tilt-compensated interferometer geometry is described. The design uses tilt- and shear-compensation optics to simultaneously maintain high throughput and precise interferometric alignment, even in the presence of non-ideal scanning motions. The tilt-compensation mechanism consists of a novel beamsplitter/reflector assembly that produces two anti-parallel beams. A variety of enhancements to the basic design are described, providing a family of related interferometer designs. These interferometers have applications in spectrometry, spectral imaging and metrology.